



Ecosystem Approaches to Management

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NOAA Mandates for Ecosystem Based Management



- Acts:
 - Magnuson-Stevens Fishery Conservation and Management Act
 - Endangered Species Act
 - Marine Mammal Protection Act
 - Coastal Zone Management Act
 - National Marine Sanctuary Act
- NOAA Strategic Plan
 - “Protect, Restore, and Manage the Use of Coastal and Ocean Resources through an Ecosystem Approach to Management”
- Directed Ecosystem Pilots contained in FY 2004 Approp.



NOAA Definitions



What is an ecosystem?

- An *ecosystem* is a geographically specified system of organisms (including humans), the environment, and the processes that control its dynamics.
- The *environment* comprises the biological, chemical, physical, and social conditions that surround organisms. Therefore, when appropriate, the term environment should be qualified as biological, chemical, physical, and/or social.

What is an ecosystem approach to management?

- An *ecosystem approach to management* is geographically specified, adaptive, takes account of ecosystem knowledge and uncertainties, considers multiple external influences, and **strives to balance diverse societal objectives**. Implementation will need to be incremental and collaborative.



Ecosystem Approach



Ecosystem approach to management strategies:

- Expand consideration of human impacts on ecosystems
 - outside of political boundaries.
 - with the involvement of multiple management partners.
- Understand and develop new management orientation to implement **place-based management** of coastal and marine resources.

Desired outcomes to an ecosystem approach:

- Healthy ecosystems (including living marine resources and habitat).
- Increased social/economic value of marine environment and resources (including productive fisheries and beneficial coastal development).
- Well-informed public that trusts ecosystem managers.
- Productive collaboration between NOAA and resource management partners.



Ecosystem Management: A Paradigm Shift



FROM



TO

- Individual Species
- Small spatial scale
- Short-term perspective
- Humans: independent of ecosystem
- Management divorced from research
- Managing commodities

- Ecosystems
- Multiple scales
- Long-term perspective
- Humans: integral part of ecosystems
- Adaptive management
- Sustaining production potential for goods and services

NOTE: Some of the substantive changes between traditional resource management and an ecosystem approach to management.



Actionable Plan for Ecosystem Integration



Recently:

NOAA Ecosystem Goal Team Office initiated place-based regional ecosystem planning and coordination through

- interagency briefing of Ecosystem Goal's regional efforts.

In the Near Future:

- Delineate Regional Ecosystems in collaboration with Federal, State and other partners - October 2004
- Convene Regional stakeholder workshops to identify key ecological, social and economic regional ecosystem indicators and joint efforts to observe and monitor them - April 2005
- Develop in each region, necessary steps and plans to advance ecosystem approaches to managing coastal and marine resources efforts - October 2005



Actionable Plan for Ecosystem Integration (continued)



In the Far Future:

- Complete and implement all regional ecosystem plans - September 2010.
- Maintain ecosystem approach to monitor outcomes and adapt ecosystem plans - October 2010 and beyond.
- Improve regional ecosystem sustainability and productivity.

Fiscal Note:

FY04 Ecosystem Pilots - \$2.0 million

FY04 Ecosystem Goal Programs - \$1,162 million

FY05 (President's Request) - \$1,032 million



NOAA Strategic Plan

FY03 - FY08



2003 to 2008 Strategic Plan

An Ecosystem Strategy will underlie all Four of NOAA's Mission Goals:

“NOAA will invest in improved understanding of ecosystems, ***identification of regional ecosystems***, development of ecosystem health indicators, and new methods of governance to establish the necessary knowledge, tools, and capabilities to fully implement ecosystem-based management of coastal, ocean and Great Lakes resources.”



NOAA Draft Strategic Plan

FY05 - FY10



2005 to 2010 Draft Strategic Plan

The Ecosystem Goal:

“Protect, restore and manage the use of coastal and ocean resources through an ecosystem approach to management.”

An Ecosystem Strategy to achieve this goal:

“Engage and collaborate with our partners to achieve regional objectives by delineating regional ecosystems, forming regional ecosystem councils, and implementing cooperative strategies to improve regional ecosystem health.”



Eleven Steps to Implement Place-based Ecosystem Management After Delineation of Ecosystems



1. Identify stakeholders/ partner interests, concerns, and values and engage them in all steps below
2. Identify / develop necessary maps and tools of ecoregions and habitats
3. Formalize agreements on how the ecosystem approach will operate
4. Determine major factors/ stresses that affect ecosystem health
5. Conduct ecological / socio-economic risk/benefit assessments
6. Establish objectives and targets for specific ecosystem health parameters
7. Establish strategies for achieving targets and performance measures
8. Determine research and information needs
9. Identify available resources (including partnerships) to accomplish strategies
10. Design ecosystem level systems for information and monitoring
11. Implement Plans/ Monitor/ Engage / Adapt



Ecosystem Approach



The emphasis of the NOAA ecosystem approach will be on:

- Voluntary participation,
- Collaboration among the partners, and
- Consensus-based decision making.

Issues yet to be Resolved:

- How will this approach be facilitated?
- What governance mechanism(s) will be used?



Ecosystem Approach Mechanism(s)



- We don't know what the governance mechanism(s) will be.
- In order for NOAA to participate, the mechanism(s) must comply with (or be exempt from) the Federal Advisory Committee Act (FACA).
- Assuming consistency with FACA, NOAA can be flexible in the design of the mechanism(s).



Mechanism(s) Design



To accomplish the desired outcomes of the ecosystem approach, NOAA must:

- Accept that different regions might have different approaches.
- Recognize that this may produce a “governance experiment” that may change over time.



Workshop Priorities

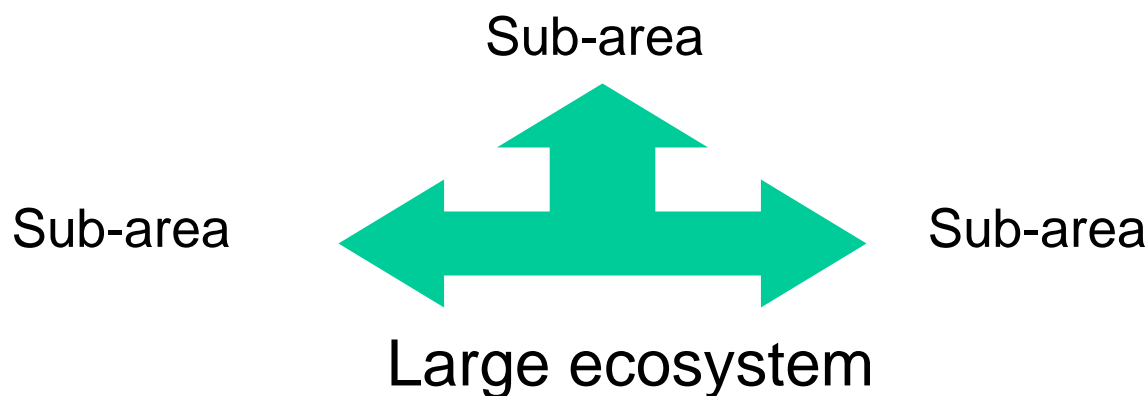


Objectives for this Workshop:

- Discuss the delineation of large ecosystems on the basis of natural science (not political boundaries).
- Discuss how those large ecosystems might be broken down into sub-areas, again, based on natural science criteria.



Final Thought



Large ecosystems illustrate the unifying natural characteristics, no matter how the sub-areas are parceled out.